

REMARKS

Claims 3-10 are pending in the application. Claims 3-5, 7 and 10 are rejected. Claims 6, 8 and 9 are allowed. Applicants have amended claim 6 in order to correct a typographical error. Applicants respectfully submit that, on the basis of the following analysis, the rejection of claims 3-5, 7 and 10 should be withdrawn and the claims found patentable.

Claim Rejections - 35 U.S.C. § 102

Claims 3, 5, 7 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakamura et al (6,004,420). This rejection is traversed for at least the following reasons.

The Nakamura reference teaches a combined set of steps with reference to Figs. 1 and 2, including (1) temporarily binding an adhesive 3 to a first disk 9 in order to form a temporary bonded article 23 at station C, (2) thereafter applying a second disk to the temporarily bonded article 23 at station D, and (3) sticking the second disk 27 to the temporarily bonded article 23, in step E, as explained at col. 5, line 54-col. 6, line 37. The goal of the disclosure in Nakamura et al is to remove air between the disks 9, 27 and adhesive sheet 3, as explained at col. 5, lines 33-38 and col. 6, lines 34-37.

The claimed invention, however, includes in step 4 of each of independent claims 3, 5 and 7 the requirement that both the disk shaped substrates joined as a disk product must be exposed “to a high pressure atmosphere at a second pressure level greater than said first pressure level.” This is not found in Nakamura.

The Examiner refers to a disclosure at col. 6, lines 23-37 where it is taught that the “stuck article 29” (comprising disks 9, 27 and adhesive 3) are kept for a predetermined time under a pressure or heat and pressure to perform air bubble removal and bonding. The specification in Nakamura states that the whole of the stuck article 29 is pressurized vertically evenly. However, this text clearly relates to the application of pressure with sticking device 10, having a conical or spherical elastic material 20, and not to atmospheric pressure. The example of a pressure application that is given in the patent is an alternative of 10 kg/cm² at room temperature or 6 kg/cm² at 60°C. While the Nakamura reference contemplates varying temperature, there is no

contemplation that the environment is an atmosphere of high atmospheric pressure and not simply mechanical pressure.

In the absence of a teaching of this express limitation of the claim, which is supported by the disclosure in the present application at page 10 with regard to Fig. 9, there can be no anticipation. The use of a pressure container and a high pressure atmospheric condition provided by the use of such container is a clear limitation of the claim that is not found in Nakamura et al.

On this basis, independent claims 3, 5 and 7, and all the claims dependent therefrom, cannot be anticipated.

Claim Rejections - 35 U.S.C. § 103

The Examiner also rejects claims 3, 5, 7 and 10 as obvious over Nakamura et al (6,004,420). Again, this rejection is traversed for at least the following reasons.

The Examiner addresses the issue of whether a pressure, which is applied to adhere the adhesive to a first disk, is less than the pressure that is applied to adhere a second disk to the temporarily bonded article 23. The Examiner appears to admit that there is no teaching of the quantum of mechanical pressure that has been applied to adhere the adhesive layer 3 to the first disk 9. However, the Examiner asserts that it would have been obvious to one skilled in the art to provide a preset force which is less than 10 kg/cm² to stick the second disk substrate to the temporarily bonded article to form a stuck article.

Applicants respectfully traverse this assumption since the critical factor of atmospheric pressure has not been introduced into the arrangement of Nakamura. In fact, Nakamura et al expressly teaches that it is intended to avoid use of atmospheric pressure altering structures since they require high maintenance, as asserted at col. 1, lines 51-64 and col. 6, line 57-col. 7, line 3. The Nakamura et al reference teaches an environment that is the opposite to, or at least away from, the environment expressly set forth in claims 3, 5, 7 and 10.

On the basis of the foregoing distinction, Applicants respectfully submit that claims 3, 5, 7 and 10 should be considered patentable over Nakamura et al.

Amendment under 37 C.F.R. § 1.111
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Further, with regard to claim 7, the additional step of applying a second hold down pressure "thereby magnifying pressure of the high pressure atmosphere" clearly is not taught or even contemplated by Nakamura et al.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al (6,004,420) in view of Michimoto et al (EO 0330197). This rejection is traversed for at least the following reasons.

Claim 4 is patentable for the reasons given with respect to claim 3, as the claim is dependent therefrom. Further, the use of a combination of roller for initially adhering an adhesive layer to a first disk substrate followed by the application of pressure in a high pressure environment to bond two substrates to the common adhesive layer is not contemplated by Michimoto et al. Of course, it also is not contemplated by Nakamura et al, as already asserted. Therefore, on the basis of the foregoing arguments, Applicants respectfully submit that all of the claims should be considered allowable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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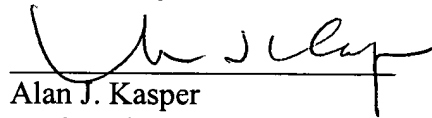
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